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ABSTRACT

A projection is provided of the Rancho Santiago Community College District's estimated future marginal costs of classroom teachers who, pursuant to California Assembly Bill 123, may retire using their highest 12 consecutive months' salary rather than the average of the 3 highest consecutive years as their final compensation. The projection was derived based on the following procedures: a review of AB123; a review of the current retirement benefits of the State Teachers Retirement System (STRS); the computation of STRS retirement benefits using both the 3-year average and the highest 12 consecutive months as final compensation; the computation of the marginal costs; and the computation of the present value of the marginal costs. The present values were computed only for a 26-year life expectancy after retirement, in keeping with the mortality data used by STRS. Neither the 2% compound cost of living allowance, the administrative costs, nor the quarterly supplemental benefits were included in the findings. The projections assumed that only one faculty member would retire in each year. Findings of the study indicated that the marginal cost--the difference between the 3-year average and the highest year salary--was the variable which had the most significant impact on future costs. The estimated total costs per year, valued at the rate of 6%, ranged from $25,369 in 1990 to $42,017 in 2010. It was recommended that the projected amount for each year should be deposited at the beginning of that year in a trust fund that earned interest at the rate of 6% for a period of 26 years. Appendixes provide study findings in tabular form and the text of Assembly Bill 123. (JMC)

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# PROJECTED FUTURE COSTS OF AB123

by Gil Moreno

March 28, 1990

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Santa Ana, California

JC900256

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# RANCHO SANTIAGO COLLEGE

17th AT BRISTOL
SANTA ANA, CALIF. 92706
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*Inter-office Memo*

Date: March 28, 1990

To: Bob Matthew

From: Gil Moreno

Subject: Projected Future Costs of AB123

INTRODUCTION

This report is a projection of the District's estimated future marginal costs of classroom teachers who, pursuant to AB123, may retire using their highest 12 consecutive months' salary rather than the average of the 3 highest consecutive years as their final compensation.

The complexity of this projection necessitated the following:

1. Review AB123.
2. Review the current retirement benefits of the State Teachers Retirement System (STRS).
3. Using various assumptions, compute the STRS retirement benefit using the 3 year average as final compensation.
4. Using the same assumptions as in #3 above, compute the STRS retirement benefit using the highest 12 consecutive months as final compensation.
5. Compute the increase or marginal costs.
6. Compute the present value of the marginal costs.

The above data and computations are contained in the attached schedules which follow generally accepted actuarial principles, except for the use of STRS mortality data.

ASSUMPTIONS

The following is a summary of the assumptions:

1. Age at retirement - 60 years.
2. Age factor percentage - 2%.
3. Unused sick leave credit - none.
4. Credited years of service - 30 years.
5. Type of benefit - unmodified.
6. Mortality data - STRS.
7. Life expectation at retirement - 26 years.
8. Average 3 year salary - Class VI, MA + 60 units, Step 14, of the Faculty Salary Schedule - $48,213 for FY 89/90.

9. Highest 12 consecutive months salary - Class VI, MA + 60 units, Step 14, of the Faculty Salary Schedule - $50,799 for FY 89/90. This salary is increased by 5.5% for FY 90/91, and 4.0% for each year thereafter.
10. STRS cost of living allowance - 2% simple.
11. Present value interest - 6%, 7%, and 8%.

APPROACH

The STRS unmodified retirement benefit was computed using the 3 year average as final compensation and also using the highest 12 consecutive months salary as final compensation. The current 2% simple cost of living allowance (C.O.L.A.) was included in the above computations. The resulting annual retirement benefits are illustrated in the attached schedules under the headings of Average Annual Retirement and Highest Annual Retirement. The columns headed Marginal Costs Per Year and Marginal Costs Cum, project the increased costs using the "pay as you go" method.

Another approach to evaluating investments or future potential obligations is to compute the present value (PV) of the payments to be made in the future, discounted at a given interest rate. This method is preferred because it takes into account the time value of money. The schedules include present value discounted at an interest rate of 6%, 7%, and 8%.

The present value has been computed only for the retiree's 26 year life expectation, which is in keeping with the mortality data used by STRS. Incidentally, the STRS mortality data differs significantly from the standard tables used by the insurance industry. The Life and Health Insurance Handbook includes the Commissioners Standard Ordinary Table and the United States Total Population Table. These tables show a life expectation, for a person 60 years old, of 16.12 and 17.71 years respectively.

OPTIONAL APPROACH

One of the first approaches to estimating the costs of AB123 was to contact STRS in Sacramento. Several departments and individuals were contacted and the most helpful information was obtained from Al Ray, Bill Rogers, and Wayne Williams.

Mr. Al Ray indicated that in order to "ball park" the increase costs of AB123, compute the estimated monthly difference between the 3 year average and the highest salary for the first year's benefit, then multiply the difference by $140.00. He insisted that the above method is unofficial.

Mr. Bill Rogers informed me that STRS will provide information to districts for use in calculating the increased costs of AB123 sometime in June of 1990. He advised that districts should wait for STRS information rather than proceed with their own projections. He also advised me that STRS was seeking legal advice on the impact of Sec 415 of the Internal Revenue Services on AB123. In addition, Mr. Rogers stated that STRS has introduced AB54 which, if approved, would help implement AB123.

## ADDITIONAL CONSIDERATIONS

Assembly Bill 2911, which was recently introduced, would change the existing STRS 2% simple cost of living allowance to 2% compound. If this bill becomes law, it would impact the projections of future costs.

There is one element of the STRS retirement benefit which has not been considered in this report - the quarterly supplemental benefit. Apparently STRS uses the All Urban California Consumer Price Index in maintaining the purchasing power of retirees at the level of 68.2%. Quarterly supplemental benefits are paid to retirees in order to maintain their original purchasing power at 68.2% of the index. I have requested a copy of this index for the years 1974 through 1989. The index should be extrapolated and applied to the formulas in order to estimate the impact on future costs.

In addition, AB123 mentions reimbursement of administrative costs. Mr. Al Ray of STRS indicated that the systems administrative costs could be one time only and range between $200.00 and $300.00. However, the actual amount and method of application has yet to be determined.

Neither the 2% compound cost of living allowance, the administrative costs, nor the quarterly supplemental benefits have been included in the findings of this report.

Two major insurance companies were contacted with reference to the 6% interest rate used in the present value computations. They indicated that currently, guaranteed rates range from 4% to 4.5% for a maximum of 4 years. However, actual yields have been and are typically much higher.

The projections assume that only 1 faculty member will retire in each year. This leaves the reader the opportunity to estimate the number of retirees for each year and compute the total costs. A better approach is to construct a frequency distribution of retiring faculty members. This can be accomplished by building a distribution of existing faculty members, assuming retirement at age 60, and merging it with a distribution of future replacements.

FINDINGS

Schedule III is a summary of marginal costs computed in schedules I for the years 1990, 1991, 1992, 1993, 1995, 2000, 2005 and 2010. The figures for the years 1994, 1996, 1997, 1998, 1999, 2001, 2002, 2003, 2004, 2006, 2007, 2008 and 2009 have been interpolated from the computed data.

The marginal cost per year has been computed using the present value method discounted at an interest rate of 6%. The estimated total costs for each year assumes that only 1 classroom teacher will retire each year.

The estimated total costs per year, present valued at the rate of 6%, for each year commencing with 1990 through 2010, as illustrated in schedule III, is as follows:

| DATES | COSTS PER YEAR |
|---|---|
| 1990 | $25,369 |
| 1991 | 29,197 |
| 1992 | 23,122 |
| 1993 | 21,684 |
| 1994 | 22,486 |
| 1995 | 23,288 |
| 1996 | 24,297 |
| 1997 | 25,306 |
| 1998 | 26,315 |
| 1999 | 27,324 |
| 2000 | 28,333 |
| 2001 | 29,601 |
| 2002 | 30,869 |
| 2003 | 32,137 |
| 2004 | 33,405 |
| 2005 | 34,675 |
| 2006 | 36,143 |
| 2007 | 37,611 |
| 2008 | 39,079 |
| 2009 | 40,547 |
| 2010 | 42,017 |

These projected amounts should be deposited at the beginning of each year in a trust fund earning interest at the rate of 6% for a period of 26 years.

The projection also indicates that the marginal cost - the difference between the 3 year average and the highest year salary - is the variable which has the most significant impact on future costs. This is illustrated by the seemingly anomalous costs for 1990 and 1991 compared to 1992 through 2000. It would appear that

the costs per year should increase proportionally for each subsequent year. However, the cost for 1990 and 1991 seem too high compared to the years 1992 through 2000. The reason for this is that the marginal cost for 1990 is higher than the years 1992 through 1997, and the marginal cost for 1991 is higher than the years 1992 through 2000. This apparent anomaly exists because actual salary schedule figures were used for 1988, 1989, and 1990. A 5.5% increase was used for 1991, and a 4% increase was used for the years 1992 through 2010. The actual salary schedule increase were 2.4% for 1989 and 7% for 1990.

The above data creates a large disparity between the average salary in the years 1990 and 1991. In the subsequent years, because of the constant 4% increase, the average salary and the highest salary increases proportionally as do the total marginal costs.

RECOMMENDATIONS

This report was prepared with many assumptions. Chief among these, and most significant to the outcome, are the projected salary increases, present value interest rate, and number of retiring faculty members.

In addition, STRS quarterly supplement benefits, the future impact of a proposed change to the STRS cost of living allowance, and a projected frequency distribution of District retirees, have not been included.

Therefore, it would appear that this report should be reviewed as an initial analysis and should be updated as assumptions and other data changes.

/jm

Attachments

Assembly Bill No. 123

CHAPTER 1184

An act to add Section 22127.1 to the Education Code, relating to the State Teachers' Retirement System.

[Became law without Governor's signature. Filed with Secretary of State October 1, 1989.]

LEGISLATIVE COUNSEL'S DIGEST

AB 123, Elder. STRS-classroom teachers: one-year final compensation.

For the computation of State Teachers' Retirement System age and service retirement allowances, the existing statutes define final compensation as the highest annual compensation earnable during any period of 3 consecutive years.

This bill would prescribe, for classroom teachers, as defined, retiring after June 30, 1990, a final compensation period of any 12 consecutive months if they are employed by an employer which, pursuant to the statutes relating to local public school employer-employee relations, has entered into a written agreement opting therefor. This bill would require that the written agreement to include a mechanism to pay for the benefit and allowance increase through employer contributions or employee contributions or both, as specified. The employer would be required to annually reimburse the system for the cost of all related benefit and allowance increases, for all years of service normally included in the calculation of the benefits and allowances and the administrative expenses of the system. Employers, upon execution of an agreement, would be required to notify all certificated employees thereof. Certificated employees of the employer who are in PERS would be authorized to elect, within a specified period, to terminate membership in PERS and become a member of STRS. Employers would be required to certify the eligibility of an employee, upon retirement or eligibility for a disability allowance, pursuant to the criteria set forth herein. This new authorization would impose state-reimbursable, state-mandated local negotiating costs since its exercise would be subject to negotiation under existing law relating to local public school employer-employee relations.

The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement, including the creation of a State Mandates Claims Fund to pay the costs of mandates which do not exceed $1,000,000 statewide and other procedures for claims whose statewide costs exceed $1,000,000.

This bill would provide that, if the Commission on State Mandates

determines that this bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to those statutory procedures and, if the statewide cost does not exceed $1,000,000, shall be made from the State Mandates Claims Fund.

*The people of the State of California do enact as follows:*

SECTION 1. Section 22127.1 is added to the Education Code, to read:

22127.1. (a) Notwithstanding the first paragraph of Section 22127, "final compensation" means the highest annual compensation earnable by a member who is a classroom teacher who retires after June 30, 1990, during any period of 12 consecutive months during his or her membership in the system. The last 12 consecutive months of employment shall be used by the system in determining final compensation unless designated to the contrary in writing by the member.

(b) Section 22127, except the first paragraph thereof, shall apply to classroom teachers who retire after June 30, 1990, and any statutory reference to Section 22127 or "final compensation" with respect to a classroom teacher who retires after June 30, 1990, shall be deemed to be a reference to this section.

(c) As used in this section, "classroom teacher" means:

(1) All teachers and substitute teachers in positions requiring certification qualifications who spend, during the last 10 years of their service which immediately precedes their retirement, 60 percent or more of their time each year providing direct instruction.

(2) Other certificated personnel who spend, during the last 10 years of their service which immediately precedes their retirement, 60 percent or more of their time each year providing direct services to pupils, including, but not limited to, librarians, counselors, nurses, speech therapists, resource specialists, audiologists, audiometrists, hygienists, optometrists, psychologists, driver safety instructors, and personnel on special assignment to perform school attendance and adjustment services.

(d) As used in this section, "classroom teacher" does not include:

(1) Certificated employees whose job descriptions require an administrative credential.

(2) Certificated employees whose job descriptions include responsibility for supervision of certificated staff.

(3) Certificated employees who serve as advisers, coordinators, consultants, or developers or planners of curricula, instructional materials, or programs, who spend, during the last 10 years of their service which immediately precedes their retirement, less than 60 percent of their time in direct instruction.

(4) Certificated employees whose job descriptions require provision of direct instruction or services, but who are temporarily functioning in nonteaching assignments.





(5) Classified employees.

(e) This section shall apply only to teachers employed by an employer which has, pursuant to Chapter 10.7 (commencing with Section 3540) of Division 4 of Title 1 of the Government Code, entered into a written agreement with an exclusive representative, which makes this section applicable to its certificated employees.

(f) The written agreement shall include a mechanism to pay for all increases in benefits and allowances provided for by this section through employer contributions or employee contributions or both, which shall be collected and retained by the employer in a trust fund to be used solely and exclusively to pay the system for all increases in benefits and allowance provided by this section and related administrative costs. The employer shall annually reimburse the system from the trust fund an amount equal to: (1) the difference between what the member receives pursuant to this section and the amount the member would have received in the absence of this section, as determined by the board, and (2) the proportionate share of the cost to the system, as determined by the board, of administering this section. The reimbursement of the system shall include the cost of all increases in benefits and allowances provided for by this section for all years of service normally included in the calculation of the benefits and allowances.

(g) Upon the execution of the agreement, the employer shall notify all certificated employees of the agreement. Any certificated employee of the employer, who is in the Public Employees' Retirement System pursuant to Section 22608, may, within 90 days following the date of notification, elect to terminate his or her membership in the Public Employees' Retirement System and become a member of this system. An employer which elects to become subject to this section shall certify the eligibility of an employee, upon retirement or eligibility for a disability allowance, pursuant to the criteria set forth in this section.

SEC. 2. Notwithstanding Section 17610 of the Government Code, if the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code. If the statewide cost of the claim for reimbursement does not exceed one million dollars ($1,000,000), reimbursement shall be made from the State Mandates Claims Fund. Notwithstanding Section 17580 of the Government Code, unless otherwise specified in this act, the provisions of this act shall become operative on the same date that the act takes effect pursuant to the California Constitution.



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SCHEDULE I FOR 1990
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1990 | $48,213 | $50,799 | 30 | $28,928 | $30,479 | $1,551 | $1,551 | 1 | $25,369 | $23,108 | $21,160 |
| 1991 | | | | $29,507 | $31,089 | $1,582 | $3,133 | 2 | | | |
| 1992 | | | | $30,086 | $31,699 | $1,613 | $4,746 | 3 | | | |
| 1993 | | | | $30,665 | $32,309 | $1,644 | $6,390 | 4 | | | |
| 1994 | | | | $31,244 | $32,919 | $1,675 | $8,065 | 5 | | | |
| 1995 | | | | $31,823 | $33,529 | $1,706 | $9,771 | 6 | | | |
| 1996 | | | | $32,402 | $34,139 | $1,737 | $11,508 | 7 | | | |
| 1997 | | | | $32,981 | $34,749 | $1,768 | $13,276 | 8 | | | |
| 1998 | | | | $33,560 | $35,359 | $1,799 | $15,075 | 9 | | | |
| 1999 | | | | $34,139 | $35,969 | $1,830 | $16,905 | 10 | | | |
| 2000 | | | | $34,718 | $36,579 | $1,861 | $18,766 | 11 | | | |
| 2001 | | | | $35,297 | $37,189 | $1,892 | $20,658 | 12 | | | |
| 2002 | | | | $35,876 | $37,799 | $1,923 | $22,581 | 13 | | | |
| 2003 | | | | $36,455 | $38,409 | $1,954 | $24,535 | 14 | | | |
| 2004 | | | | $37,034 | $39,019 | $1,985 | $26,520 | 15 | | | |
| 2005 | | | | $37,613 | $39,629 | $2,016 | $28,536 | 16 | | | |
| 2006 | | | | $38,192 | $40,239 | $2,047 | $30,583 | 17 | | | |
| 2007 | | | | $38,771 | $40,849 | $2,078 | $32,661 | 18 | | | |
| 2008 | | | | $39,350 | $41,459 | $2,109 | $34,770 | 19 | | | |
| 2009 | | | | $39,929 | $42,069 | $2,140 | $36,910 | 20 | | | |
| 2010 | | | | $40,508 | $42,679 | $2,171 | $39,081 | 21 | | | |
| 2011 | | | | $41,087 | $43,289 | $2,202 | $41,283 | 22 | | | |
| 2012 | | | | $41,666 | $43,899 | $2,233 | $43,516 | 23 | | | |
| 2013 | | | | $42,245 | $44,509 | $2,264 | $45,780 | 24 | | | |
| 2014 | | | | $42,824 | $45,119 | $2,295 | $48,075 | 25 | | | |
| 2015 | | | | $43,403 | $45,729 | $2,326 | $50,401 | 26 | | | |

SCHEDULE I FOR 1991
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1991 | $50,623 | $53,593 | 30 | $30,374 | $32,156 | $1,782 | $1,782 | 1 | $29,197 | $26,593 | $24,350 |
| 1992 | | | | $30,981 | $32,799 | $1,818 | $3,600 | 2 | | | |
| 1993 | | | | $31,588 | $33,442 | $1,854 | $5,454 | 3 | | | |
| 1994 | | | | $32,195 | $34,085 | $1,890 | $7,344 | 4 | | | |
| 1995 | | | | $32,802 | $34,728 | $1,926 | $9,270 | 5 | | | |
| 1996 | | | | $33,409 | $35,371 | $1,962 | $11,232 | 6 | | | |
| 1997 | | | | $34,016 | $36,014 | $1,998 | $13,230 | 7 | | | |
| 1998 | | | | $34,623 | $36,657 | $2,034 | $15,264 | 8 | | | |
| 1999 | | | | $35,230 | $37,300 | $2,070 | $17,334 | 9 | | | |
| 2000 | | | | $35,837 | $37,943 | $2,106 | $19,440 | 10 | | | |
| 2001 | | | | $36,444 | $38,586 | $2,142 | $21,582 | 11 | | | |
| 2002 | | | | $37,051 | $39,229 | $2,178 | $23,760 | 12 | | | |
| 2003 | | | | $37,658 | $39,872 | $2,214 | $25,974 | 13 | | | |
| 2004 | | | | $38,265 | $40,515 | $2,250 | $28,224 | 14 | | | |
| 2005 | | | | $38,872 | $41,158 | $2,286 | $30,510 | 15 | | | |
| 2006 | | | | $39,479 | $41,801 | $2,322 | $32,832 | 16 | | | |
| 2007 | | | | $40,086 | $42,444 | $2,358 | $35,190 | 17 | | | |
| 2008 | | | | $40,693 | $43,087 | $2,394 | $37,584 | 18 | | | |
| 2009 | | | | $41,300 | $43,730 | $2,430 | $40,014 | 19 | | | |
| 2010 | | | | $41,907 | $44,373 | $2,466 | $42,480 | 20 | | | |
| 2011 | | | | $42,514 | $45,016 | $2,502 | $44,982 | 21 | | | |
| 2012 | | | | $43,121 | $45,659 | $2,538 | $47,520 | 22 | | | |
| 2013 | | | | $43,728 | $46,302 | $2,574 | $50,094 | 23 | | | |
| 2014 | | | | $44,335 | $46,945 | $2,610 | $52,704 | 24 | | | |
| 2015 | | | | $44,942 | $47,588 | $2,646 | $55,350 | 25 | | | |
| 2016 | | | | $45,549 | $48,231 | $2,682 | $58,032 | 26 | | | |

SCHEDULE I FOR 1992
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1992 | $53,376 | $55,737 | 30 | $32,026 | $33,442 | $1,416 | $1,416 | 1 | $23,122 | $21,063 | $19,289 |
| 1993 | | | | $32,667 | $34,111 | $1,444 | $2,860 | 2 | | | |
| 1994 | | | | $33,308 | $34,780 | $1,472 | $4,332 | 3 | | | |
| 1995 | | | | $33,949 | $35,449 | $1,500 | $5,832 | 4 | | | |
| 1996 | | | | $34,590 | $36,118 | $1,528 | $7,360 | 5 | | | |
| 1997 | | | | $35,231 | $36,787 | $1,556 | $8,916 | 6 | | | |
| 1998 | | | | $35,872 | $37,456 | $1,584 | $10,500 | 7 | | | |
| 1999 | | | | $36,513 | $38,125 | $1,612 | $12,112 | 8 | | | |
| 2000 | | | | $37,154 | $38,794 | $1,640 | $13,752 | 9 | | | |
| 2001 | | | | $37,795 | $39,463 | $1,668 | $15,420 | 10 | | | |
| 2002 | | | | $38,436 | $40,132 | $1,696 | $17,116 | 11 | | | |
| 2003 | | | | $39,077 | $40,801 | $1,724 | $18,840 | 12 | | | |
| 2004 | | | | $39,718 | $41,470 | $1,752 | $20,592 | 13 | | | |
| 2005 | | | | $40,359 | $42,139 | $1,780 | $22,372 | 14 | | | |
| 2006 | | | | $41,000 | $42,808 | $1,808 | $24,180 | 15 | | | |
| 2007 | | | | $41,641 | $43,477 | $1,836 | $26,016 | 16 | | | |
| 2008 | | | | $42,282 | $44,146 | $1,864 | $27,880 | 17 | | | |
| 2009 | | | | $42,923 | $44,815 | $1,892 | $29,772 | 18 | | | |
| 2010 | | | | $43,564 | $45,484 | $1,920 | $31,692 | 19 | | | |
| 2011 | | | | $44,205 | $46,153 | $1,948 | $33,640 | 20 | | | |
| 2012 | | | | $44,846 | $46,822 | $1,976 | $35,616 | 21 | | | |
| 2013 | | | | $45,487 | $47,491 | $2,004 | $37,620 | 22 | | | |
| 2014 | | | | $46,128 | $48,160 | $2,032 | $39,652 | 23 | | | |
| 2015 | | | | $46,769 | $48,829 | $2,060 | $41,712 | 24 | | | |
| 2016 | | | | $47,410 | $49,498 | $2,088 | $43,800 | 25 | | | |
| 2017 | | | | $48,051 | $50,167 | $2,116 | $45,916 | 26 | | | |

SCHEDULE I FOR 1993
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1993 | $55,765 | $57,966 | 30 | $33,459 | $34,780 | $1,321 | $1,321 | 1 | $21,684 | $19,748 | $18,081 |
| 1994 | | | | $34,128 | $35,476 | $1,348 | $2,669 | 2 | | | |
| 1995 | | | | $34,797 | $36,172 | $1,375 | $4,044 | 3 | | | |
| 1996 | | | | $35,466 | $36,868 | $1,402 | $5,446 | 4 | | | |
| 1997 | | | | $36,135 | $37,564 | $1,429 | $6,875 | 5 | | | |
| 1998 | | | | $36,804 | $38,260 | $1,456 | $8,331 | 6 | | | |
| 1999 | | | | $37,473 | $38,956 | $1,483 | $9,814 | 7 | | | |
| 2000 | | | | $38,142 | $39,652 | $1,510 | $11,324 | 8 | | | |
| 2001 | | | | $38,811 | $40,348 | $1,537 | $12,861 | 9 | | | |
| 2002 | | | | $39,480 | $41,044 | $1,564 | $14,425 | 10 | | | |
| 2003 | | | | $40,149 | $41,740 | $1,591 | $16,016 | 11 | | | |
| 2004 | | | | $40,818 | $42,436 | $1,618 | $17,634 | 12 | | | |
| 2005 | | | | $41,487 | $43,132 | $1,645 | $19,279 | 13 | | | |
| 2006 | | | | $42,156 | $43,828 | $1,672 | $20,951 | 14 | | | |
| 2007 | | | | $42,825 | $44,524 | $1,699 | $22,650 | 15 | | | |
| 2008 | | | | $43,494 | $45,220 | $1,726 | $24,376 | 16 | | | |
| 2009 | | | | $44,163 | $45,916 | $1,753 | $26,129 | 17 | | | |
| 2010 | | | | $44,832 | $46,612 | $1,780 | $27,909 | 18 | | | |
| 2011 | | | | $45,501 | $47,308 | $1,807 | $29,716 | 19 | | | |
| 2012 | | | | $46,170 | $48,004 | $1,834 | $31,550 | 20 | | | |
| 2013 | | | | $46,839 | $48,700 | $1,861 | $33,411 | 21 | | | |
| 2014 | | | | $47,508 | $49,396 | $1,888 | $35,299 | 22 | | | |
| 2015 | | | | $48,177 | $50,092 | $1,915 | $37,214 | 23 | | | |
| 2016 | | | | $48,846 | $50,788 | $1,942 | $39,156 | 24 | | | |
| 2017 | | | | $49,515 | $51,484 | $1,969 | $41,125 | 25 | | | |
| 2018 | | | | $50,184 | $52,180 | $1,996 | $43,121 | 26 | | | |

SCHEDULE I FOR 1995
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1995 | $60,316 | $62,696 | 30 | $36,190 | $37,618 | $1,428 | $1,428 | 1 | $23,288 | $21,215 | $19,429 |
| 1996 | | | | $36,914 | $38,370 | $1,456 | $2,884 | 2 | | | |
| 1997 | | | | $37,638 | $39,122 | $1,484 | $4,368 | 3 | | | |
| 1998 | | | | $38,362 | $39,874 | $1,512 | $5,880 | 4 | | | |
| 1999 | | | | $39,086 | $40,626 | $1,540 | $7,420 | 5 | | | |
| 2000 | | | | $39,810 | $41,378 | $1,568 | $8,988 | 6 | | | |
| 2001 | | | | $40,534 | $42,130 | $1,596 | $10,584 | 7 | | | |
| 2002 | | | | $41,258 | $42,882 | $1,624 | $12,208 | 8 | | | |
| 2003 | | | | $41,982 | $43,634 | $1,652 | $13,860 | 9 | | | |
| 2004 | | | | $42,706 | $44,386 | $1,680 | $15,540 | 10 | | | |
| 2005 | | | | $43,430 | $45,138 | $1,708 | $17,248 | 11 | | | |
| 2006 | | | | $44,154 | $45,890 | $1,736 | $18,984 | 12 | | | |
| 2007 | | | | $44,878 | $46,642 | $1,764 | $20,748 | 13 | | | |
| 2008 | | | | $45,602 | $47,394 | $1,792 | $22,540 | 14 | | | |
| 2009 | | | | $46,326 | $48,146 | $1,820 | $24,360 | 15 | | | |
| 2010 | | | | $47,050 | $48,898 | $1,848 | $26,208 | 16 | | | |
| 2011 | | | | $47,774 | $49,650 | $1,876 | $28,084 | 17 | | | |
| 2012 | | | | $48,498 | $50,402 | $1,904 | $29,988 | 18 | | | |
| 2013 | | | | $49,222 | $51,154 | $1,932 | $31,920 | 19 | | | |
| 2014 | | | | $49,946 | $51,906 | $1,960 | $33,880 | 20 | | | |
| 2015 | | | | $50,670 | $52,658 | $1,988 | $35,868 | 21 | | | |
| 2016 | | | | $51,394 | $53,410 | $2,016 | $37,884 | 22 | | | |
| 2017 | | | | $52,118 | $54,162 | $2,044 | $39,928 | 23 | | | |
| 2018 | | | | $52,842 | $54,914 | $2,072 | $42,000 | 24 | | | |
| 2019 | | | | $53,566 | $55,666 | $2,100 | $44,100 | 25 | | | |
| 2020 | | | | $54,290 | $56,418 | $2,128 | $46,228 | 26 | | | |

SCHEDULE I FOR 2000
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2000 | $73,383 | $76,280 | 30 | $44,030 | $45,768 | $1,738 | $1,738 | 1 | $28,333 | $25,811 | $23,639 |
| 2001 | | | | $44,911 | $46,683 | $1,772 | $3,510 | 2 | | | |
| 2002 | | | | $45,792 | $47,598 | $1,806 | $5,316 | 3 | | | |
| 2003 | | | | $46,673 | $48,513 | $1,840 | $7,156 | 4 | | | |
| 2004 | | | | $47,554 | $49,428 | $1,874 | $9,030 | 5 | | | |
| 2005 | | | | $48,435 | $50,343 | $1,908 | $10,938 | 6 | | | |
| 2006 | | | | $49,316 | $51,258 | $1,942 | $12,880 | 7 | | | |
| 2007 | | | | $50,197 | $52,173 | $1,976 | $14,856 | 8 | | | |
| 2008 | | | | $51,078 | $53,088 | $2,010 | $16,866 | 9 | | | |
| 2009 | | | | $51,959 | $54,003 | $2,044 | $18,910 | 10 | | | |
| 2010 | | | | $52,840 | $54,918 | $2,078 | $20,988 | 11 | | | |
| 2011 | | | | $53,721 | $55,833 | $2,112 | $23,100 | 12 | | | |
| 2012 | | | | $54,602 | $56,748 | $2,146 | $25,246 | 13 | | | |
| 2013 | | | | $55,483 | $57,663 | $2,180 | $27,426 | 14 | | | |
| 2014 | | | | $56,364 | $58,578 | $2,214 | $29,640 | 15 | | | |
| 2015 | | | | $57,245 | $59,493 | $2,248 | $31,888 | 16 | | | |
| 2016 | | | | $58,126 | $60,408 | $2,282 | $34,170 | 17 | | | |
| 2017 | | | | $59,007 | $61,323 | $2,316 | $36,486 | 18 | | | |
| 2018 | | | | $59,888 | $62,238 | $2,350 | $38,836 | 19 | | | |
| 2019 | | | | $60,769 | $63,153 | $2,384 | $41,220 | 20 | | | |
| 2020 | | | | $61,650 | $64,068 | $2,418 | $43,638 | 21 | | | |
| 2021 | | | | $62,531 | $64,983 | $2,452 | $46,090 | 22 | | | |
| 2022 | | | | $63,412 | $65,898 | $2,486 | $48,576 | 23 | | | |
| 2023 | | | | $64,293 | $66,813 | $2,520 | $51,096 | 24 | | | |
| 2024 | | | | $65,174 | $67,728 | $2,554 | $53,650 | 25 | | | |
| 2025 | | | | $66,055 | $68,643 | $2,588 | $56,238 | 26 | | | |

SCHEDULE I FOR 2005
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2005 | $89,282 | $92,806 | 30 | $53,569 | $55,683 | $2,114 | $2,114 | 1 | $34,675 | $31,580 | $28,915 |
| 2006 | | | | $54,640 | $56,797 | $2,157 | $4,271 | 2 | | | |
| 2007 | | | | $55,711 | $57,911 | $2,200 | $6,471 | 3 | | | |
| 2008 | | | | $56,782 | $59,025 | $2,243 | $8,714 | 4 | | | |
| 2009 | | | | $57,853 | $60,139 | $2,286 | $11,000 | 5 | | | |
| 2010 | | | | $58,924 | $61,253 | $2,329 | $13,329 | 6 | | | |
| 2011 | | | | $59,995 | $62,367 | $2,372 | $15,701 | 7 | | | |
| 2012 | | | | $61,066 | $63,481 | $2,415 | $18,116 | 8 | | | |
| 2013 | | | | $62,137 | $64,595 | $2,458 | $20,574 | 9 | | | |
| 2014 | | | | $63,208 | $65,709 | $2,501 | $23,075 | 10 | | | |
| 2015 | | | | $64,279 | $66,823 | $2,544 | $25,619 | 11 | | | |
| 2016 | | | | $65,350 | $67,937 | $2,587 | $28,206 | 12 | | | |
| 2017 | | | | $66,421 | $69,051 | $2,630 | $30,836 | 13 | | | |
| 2018 | | | | $67,492 | $70,165 | $2,673 | $33,509 | 14 | | | |
| 2019 | | | | $68,563 | $71,279 | $2,716 | $36,225 | 15 | | | |
| 2020 | | | | $69,634 | $72,393 | $2,759 | $38,984 | 16 | | | |
| 2021 | | | | $70,705 | $73,507 | $2,802 | $41,786 | 17 | | | |
| 2022 | | | | $71,776 | $74,621 | $2,845 | $44,631 | 18 | | | |
| 2023 | | | | $72,847 | $75,735 | $2,888 | $47,519 | 19 | | | |
| 2024 | | | | $73,918 | $76,849 | $2,931 | $50,450 | 20 | | | |
| 2025 | | | | $74,989 | $77,963 | $2,974 | $53,424 | 21 | | | |
| 2026 | | | | $76,060 | $79,077 | $3,017 | $56,441 | 22 | | | |
| 2027 | | | | $77,131 | $80,191 | $3,060 | $59,501 | 23 | | | |
| 2028 | | | | $78,202 | $81,305 | $3,103 | $62,604 | 24 | | | |
| 2029 | | | | $79,273 | $82,419 | $3,146 | $65,750 | 25 | | | |
| 2030 | | | | $80,344 | $83,533 | $3,189 | $68,939 | 26 | | | |

SCHEDULE I FOR 2010
PROJECTED MARGINAL COSTS PURSUANT TO AB123 CHAPTER 1184
WHICH ALLOWS STRS RETIREMENT BENEFIT TO BE COMPUTED ON THE
HIGHEST 12 CONSECUTIVE MONTHS OF COMPENSATION FOR CLASSROOM
TEACHERS EFFECTIVE AFTER JUNE 30,1990 PER NEGOTIATIONS

| DATES | AVERAGE 3 HIGHEST YEARS | HIGHEST YEAR | SERV YRS | AVERAGE ANNUAL RETIRMT 2% SIMPLE | HIGHEST ANNUAL RETIRMT 2% SIMPLE | MARGINAL COSTS PER YEAR | MARGINAL COSTS CUM | LIFE SPAN YEARS | PRESENT VALUE @ 6% | PRESENT VALUE @ 7% | PRESENT VALUE @ 8% |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2010 | $108,625 | $112,912 | 30 | $65,175 | $67,747 | $2,572 | $2,572 | 1 | $42,017 | $38,274 | $35,050 |
| 2011 | | | | $66,479 | $69,102 | $2,623 | $5,195 | 2 | | | |
| 2012 | | | | $67,783 | $70,457 | $2,674 | $7,869 | 3 | | | |
| 2013 | | | | $69,087 | $71,812 | $2,725 | $10,594 | 4 | | | |
| 2014 | | | | $70,391 | $73,167 | $2,776 | $13,370 | 5 | | | |
| 2015 | | | | $71,695 | $74,522 | $2,827 | $16,197 | 6 | | | |
| 2016 | | | | $72,999 | $75,877 | $2,878 | $19,075 | 7 | | | |
| 2017 | | | | $74,303 | $77,232 | $2,929 | $22,004 | 8 | | | |
| 2018 | | | | $75,607 | $78,587 | $2,980 | $24,984 | 9 | | | |
| 2019 | | | | $76,911 | $79,942 | $3,031 | $28,015 | 10 | | | |
| 2020 | | | | $78,215 | $81,297 | $3,082 | $31,097 | 11 | | | |
| 2021 | | | | $79,519 | $82,652 | $3,133 | $34,230 | 12 | | | |
| 2022 | | | | $80,823 | $84,007 | $3,184 | $37,414 | 13 | | | |
| 2023 | | | | $82,127 | $85,362 | $3,235 | $40,649 | 14 | | | |
| 2024 | | | | $83,431 | $86,717 | $3,286 | $43,935 | 15 | | | |
| 2025 | | | | $84,735 | $88,072 | $3,337 | $47,272 | 16 | | | |
| 2026 | | | | $86,039 | $89,427 | $3,388 | $50,660 | 17 | | | |
| 2027 | | | | $87,343 | $90,782 | $3,439 | $54,099 | 18 | | | |
| 2028 | | | | $88,647 | $92,137 | $3,490 | $57,589 | 19 | | | |
| 2029 | | | | $89,951 | $93,492 | $3,541 | $61,130 | 20 | | | |
| 2030 | | | | $91,255 | $94,847 | $3,592 | $64,722 | 21 | | | |
| 2031 | | | | $92,559 | $96,202 | $3,643 | $68,365 | 22 | | | |
| 2032 | | | | $93,863 | $97,557 | $3,694 | $72,059 | 23 | | | |
| 2033 | | | | $95,167 | $98,912 | $3,745 | $75,804 | 24 | | | |
| 2034 | | | | $96,471 | $100,267 | $3,796 | $79,600 | 25 | | | |
| 2035 | | | | $97,775 | $101,622 | $3,847 | $83,447 | 26 | | | |

SCHEDULE III
SUMMARY OF PROJECTED AB123 MARGINAL COSTS
COMPUTED USING A PRESENT VALUE OF 6%

| DATES | NUMBER OF RETIREES | MARGINAL COST PER RETIREE PV@ 6% | | ESTIMATED TOTAL COSTS PER YEAR |
|---|---|---|---|---|
| 1990 | 1 | $25,369 | | $25,369 |
| 1991 | 1 | $29,197 | | $29,197 |
| 1992 | 1 | $23,122 | | $23,122 |
| 1993 | 1 | $21,684 | | $21,684 |
| 1994 | 1 | $22,486 | * | $22,486 |
| 1995 | 1 | $23,288 | | $23,288 |
| 1996 | 1 | $24,297 | * | $24,297 |
| 1997 | 1 | $25,306 | * | $25,306 |
| 1998 | 1 | $26,315 | * | $26,315 |
| 1999 | 1 | $27,324 | * | $27,324 |
| 2000 | 1 | $28,333 | | $28,333 |
| 2001 | 1 | $29,601 | * | $29,601 |
| 2002 | 1 | $30,869 | * | $30,869 |
| 2003 | 1 | $32,137 | * | $32,137 |
| 2004 | 1 | $33,405 | * | $33,405 |
| 2005 | 1 | $34,675 | | $34,675 |
| 2006 | 1 | $36,143 | * | $36,143 |
| 2007 | 1 | $37,611 | * | $37,611 |
| 2008 | 1 | $39,079 | * | $39,079 |
| 2009 | 1 | $40,547 | * | $40,547 |
| 2010 | 1 | $42,017 | | $42,017 |

* THIS FIGURES HAVE BEEN INTERPOLATED FROM COMPUTED FIGURES.

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